AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Cancel claims 1-30 without prejudice.

31. (New) A method for purifying metal M_1 particles manufactured by an electrochemical reduction process, the method comprising the steps of :

suspending the metal M_1 particles in a heat source at a temperature substantially equal to or higher than the melting point of M_1 so as to cause vaporisation of some or substantially all of the contaminating impurities present;

removing the vaporised impurities from the vicinity of the particles;

cooling the purified metal M_1 particles; and

collecting the cooled purified metal M_1 particles.

32. (New) A method for the manufacture of a metal alloy article containing a metal M_1, comprising the steps of:

electrochemically reducing a source of a compound of the general formula M_1X to remove substantially all of element X and provide powder particles consisting substantially of metal M_1;

holding the metal powder M_1 in a heat source at a temperature substantially equal to or higher than melting point of M_1 for a period of time sufficient to cause vaporisation of a significant proportion of the one or more impurities;

removing the vaporised impurities;

cooling the purified metal M_1 powder; and

mixing the purified M_1 powder with powder of other alloy components and performing a powder metallurgy process on the mixture to form the alloyed article.

33. (New) A method as claimed in claim 31 wherein the particles are in the form of a powder.

34. (New) A method as claimed in claim 32 wherein the powder metallurgy process involves powder sintering.

35. (New) A method as claimed in claim 32 wherein the powder metallurgy process involves powder pressing or forging.

36. (New) A method as claimed in claim 31 wherein the heat source is selected from any one of a plasma torch, a laser, an electric arc, an induction coil or a tube furnace.

37. (New) A method as claimed in claim 31 conducted in apparatus comprising a heat source, collection means for collecting the purified particles, and separate collection means for collecting the impurities.

38. (New) A method as claimed in claim 31 wherein the particles are permitted to free fall past or within the heat source.

39. (New) A method as claimed in claim 38 wherein the free fall distance from the heat source is sufficiently long to allow any M_1 melted by the heat source to re-solidify before collection.

40. (New) A method as claimed in claim 36 wherein the heat source is a plasma torch and the step of removing the vaporised impurities involves allowing the impurities to be swept away by the hot gas flow from the torch.

41. (New) A method as claimed in claim 31 wherein the step of removing the vaporised impurities involves condensing the vaporised impurities on cold collector plates positioned adjacent the heat source and disposing of the condensed impurities.

42. (New) A method as claimed in claim 31 wherein the temperature of the heat source is around or above the melting point, but below the boiling point of M_1.

43. (New) A method as claimed in claim 31 wherein M_1 comprises titanium.

44. (New) A method as claimed in claim 32 wherein M_1X is titanium oxide TiO_2.

45. (New) A method as claimed in claim 31 wherein the impurities comprise one or more of magnesium, calcium and calcium chloride.

46. (New) A method for the manufacture of a metal alloy article of uniform cross section comprising the steps of:

introducing a continuous source of metal alloy M_1 pellets, manufactured by an electrochemical reduction process, to a processing means;

heating the pellets as they approach the processing means, by free-fall through a heat source, to a temperature substantially equal to or higher than the melting point of M_1 so as to cause vaporisation of some or substantially all of the contaminating impurities present;

removing the vaporised impurities from the vicinity of the pellets;

drawing the metal through the processing means so as to coalesce the pellets to form the desired article; and,

cooling the cast stock.

47. (New) A method as claimed in claim 46 for the manufacture of a metal alloy sheet wherein the processing means is a pair of cooled feed rollers and the cast stock emerges from the cooled feed rollers as an alloy sheet.

48. (New) A method as claimed in claim 46 for the manufacture of a uniform cross-section metal alloy stock, comprising the steps of:

introducing the continuous source of pellets of the metal alloy to a shaped crucible;

heating the pellets as specified in claim 46 as they approach the exposed surface of the crucible;

drawing the at least partially molten metal from an opposing surface of the crucible through a die, the die having a cross section of near net shape and dimensions to the desired net shape and dimensions of the required stock; and,

cooling the cast stock.

49. (New) A method as claimed in claim 46, wherein the step of heating the pellets is carried out by means of an energy beam selected from an electron beam, a laser or a plasma torch.

50. (New) A method as claimed in claim 46, wherein the alloy substantially comprises titanium.